Roster and Biosketches for the U.S. Environmental Protection Agency Science Advisory Board Environmental Engineering Committee FY2003

(April 22, 2003)

CHAIR

Dr. Domenico Grasso is the Rosemary Bradford Hewlett Professor and Founding Chair of the Picker Engineering Program a Smith College and holds adjunct faculty appointments at the Universities of Connecticut and Massachusetts and Yale University. Prior to joining Smith, Dr. Grasso was offered and declined the position of Professor (with tenure) and Chair in the Department of Earth and Environmental Engineering at Columbia University. An environmental engineer who studies the ultimate fate of contaminants in the environment and develops new techniques to destroy or otherwise reduce the risks associated with these contaminants to human health or natural resources, he focuses on molecular scale processes that underlie nature and behavior of contaminants in environmental systems.

He holds a B.Sc. from Worcester Polytechnic Institute, an M.S. from Purdue University and a Ph.D. from The University of Michigan. He is a registered Professional Engineer in the states of Connecticut and Texas, and was Professor and Head of Department in Civil & Environmental Engineering at the University of Connecticut prior to joining Smith. He has been a Visiting Scholar at UC-Berkeley, a NATO Fellow, and an Invited Technical Expert to the United Nations Industrial Development Organization in Vienna Austria. He is currently a member of the United States Environmental Protection Agency Science Advisory Board, President of the Association of Environmental Engineering & Science Professors, and Editor-in-Chief of Environmental Engineering Science. He has authored more than 100 technical papers & reports, including four chapters and two books. Federal, state and industrial organizations have supported his research work.

EEC MEMBERS

Dr. H. Barry Dellinger is the Patrick F. Taylor Chair of the Environmental Impact of Treatment of Hazardous Wastes and Professor of Chemistry at Louisiana State University. He is the Director of the LSU Intercollege Environmental Co-operative and the Acting Director of the Biodynamics Institute. He is a member of the US-EPA Science Advisory Board Environmental Engineering Committee. From 1981 to 1998, he was Group Leader of Environmental Sciences and Engineering at the University of Dayton where he also held a joint faculty appointment. From 1978-1981 he was a Senior Project Scientist at Northrop Services Inc. He was a post-doctoral fellow at the University of Pennsylvania from 1976-1978. He holds a Ph.D in Physical Chemistry from Florida State University and B.S. in Chemistry from the University of North Carolina at Chapel Hill. His research interests include origin and control of toxic combustion by-products, thermal treatment of hazardous wastes, pathways of formation of dioxins, gas-phase and surface catalyzed elementary reaction kinetics, and sources/health impacts of environmentally persistent free radicals. He is a recipient of the Charles A. Lindberg Certificate of Merit, the Engineering and Science Foundation Award for Outstanding Professional Achievement, the Wohleben-Hochwald Researcher of the Year Award, the Ohio General Assembly Award for Research Excellence, and co-recipient of numerous EPA STAR research awards. (10/2002)

Dr. David Dzombak received his Ph.D. in Civil-Environmental Engineering from the Massachusetts Institute of Technology. He is a Professor of Civil and Environmental Engineering at Carnegie Mellon University, a registered Professional Engineer in Pennsylvania, and a Diplomate of the American Academy of Environmental Engineers.

The emphasis of his research is on water and soil quality engineering, especially the fate and transport of chemicals in subsurface systems and sediments, wastewater treatment, in situ and ex situ soil/sediment treatment, hazardous waste site remediation, and abandoned mine drainage remediation. Dr. Dzombak has served on the National Research Council Committee on Bioavailability of Contaminants in Soils and Sediments, and on various research review panels for the Department of Defense, Environmental Protection Agency, National Institute of Environmental Health Sciences, and National Science Foundation. He has also served on the Board of Directors and as an Officer of the Association of Environmental Engineering and Science Professors; as chair of committees for the American Academy of Environmental Engineers, American Society of Civil Engineers, and Water Environment Federation; and on advisory committees for various community and local government organizations, and for the Commonwealth of Pennsylvania.

Dr. Dzombak was awarded an Aldo Leopold Leadership Program Fellowship by the Ecological Society of America and The David and Lucile Packard Foundation in 2000. He also received the Professional Research Award from the Water Environment Association of Pennsylvania in 2002, the Jack Edward McKee Medal from the Water Environment Foundation in 2000, and a Distinguished Service Award from the Association of Environmental Engineering and Science Professors in 1999. Additional awards and honors include the Walter L. Huber Civil Engineering Research Prize by the American Society of Civil Engineers in 1997, the Harrison Prescott Eddy Medal in 1993 from the Water Environment Federation, and the National Science Foundation Presidential Young Investigator Award in 1991. (10/2002)

Dr. James Galloway is Professor of Environmental Sciences at the University of Virginia. Dr. Galloway received the B.A. degree in Chemistry and Biology from Whittier College in 1966 and the Ph.D. degree in Chemistry from the University of California, San Diego in 1972. Following a postdoctoral appointment with Gene Likens at Cornell University, he accepted a position as Assistant Professor of Environmental Sciences at the University of Virginia in 1976. He served as President of the Bermuda Biological for Research from 1988 to 1995, and as chair of Environmental Sciences, University of Virginia from 1996 to 2001. His research on biogeochemistry includes the natural and anthropogenic controls on chemical cycles at the watershed, regional and global scales. His current research focuses on beneficial and detrimental effects of reactive nitrogen as it cascades between the atmosphere, terrestrial ecosystems and freshwater and marine ecosystems. Most recently he as the co-chair of The Second International Nitrogen Conference in October 2001 that assessed the scientific needs and policy mechanisms to optimize nitrogen management in food and energy production, and environmental change. (9/2002)

Dr. Michael Kavanaugh is Vice President and the National Science and Technology Leader for Malcolm Pirnie, Inc. He is a chemical and environmental engineer with over 27 years of consulting experience. He has provided a broad range of consulting engineering services to private and public sector clients both in the U.S. as well as western Europe and parts of Asia. His areas of expertise include hazardous waste management, site remediation with an emphasis on groundwater cleanup, strategic environmental management, risk analysis, water quality and water reuse, water treatment, industrial and municipal wastewater treatment and technology evaluations including patent reviews.

Dr. Kavanaugh has been project engineer, project manager, principal-in-charge, technical director or technical reviewer on over 200 projects covering a broad range of environmental issues. Dr. Kavanaugh has prepared over 35 peer reviewed technical publications, edited two books, and has made over 100 presentations to technical audiences as well as public groups. Dr. Kavanaugh was the Chair of the Water Science and Technology Board of the National Research Council from 1989 to

1991. During this time, the Board managed or developed over 15 projects related to all aspects of water resources management. From 1994 to 2000, he chaired the Board on Radioactive Waste Management, a Board responsible for evaluating the Nation's strategies for management of radioactive waste. He recently served on the Board of Scientific Counselors, advising the Assistant Administrator of the Office of Research and Development in EPA. Since 2000, Dr. Kavanaugh has served on the Science Advisory Board of the DOD environmental research program, the Strategic Environmental Research and Development Program ("SERDP"). He is currently on the Editorial Advisory Board for the Environmental Science and Technology Journal. He was elected to the National Academy of Engineering in 1998.

Dr. Kavanaugh has a B.S. and a M.S. in Chemical Engineering from Stanford and the University of California, Berkeley, respectively. He received his PhD in Civil/Environmental Engineering from UC Berkeley in 1974. He is a registered professional engineer in several states and is a Diplomate of the American Academy of Environmental Engineers, a designation that requires regular confirmation of professional standing. (9/2002)

Dr. Byung Kim is Staff Technical Specialist in the Physical and Environmental Sciences Department of Ford Research Laboratory, Dearborn, MI and is a professional engineer. He received the B.S. degree in Civil Engineering from Seoul National University in Korea in 1971 and M.S. and Ph.D. degrees in Environmental Engineering from the University of Illinois, Urbana, IL in 1974 and 1977, respectively. Before joining Ford, he worked as an environmental engineer for Tennessee Valley Authority, taught at the Georgia Institute of Technology, and was a researcher at General Motors Research Laboratories. His current research interest is in understanding various manufacturing emission issues (physical/chemical/biological waste treatment processes and the overall environmental impact of manufacturing processes). He also has worked on the adsorption of organics on activated carbon and water quality modeling. He has served on EPA SAB Environmental Engineering Committee and was Editor of the Journal of Environmental Engineering, American Society of Civil Engineers (ASCE). He served on the advisory board for the National Institute of Environmental Health Superfund Basic Research Program at the University of Cincinnati. He received a Richard R. Torrens Award for editorial leadership from ASCE and two Willem Rudolfs Medals from Water Environment Federation on his publications in industrial wastes. (9/2002)

Dr. Michael J. McFarland received his bachelors' degree in Engineering and Applied Science from Yale University, his masters' degree in Chemical Engineering from Cornell University, his Ph.D. in Agricultural Engineering from Cornell University and completed his postdoctoral research program in the Dept. of Civil and Environmental Engineering at the University of Texas at Austin.

Dr. McFarland is currently an associate professor in the Department of Civil and Environmental Engineering at Utah State University where his research interests are focused in the areas of air quality management, biosolids engineering, industrial waste management and pollution prevention. Dr. McFarland has served on numerous federal, state and local environmental engineering and public health advisory committees for the US Dept. of Defense, US Environmental Protection Agency, US Dept. of Energy, National Science Foundation, Utah Dept. of Environmental Quality and Cache County, Utah.

Dr. McFarland has authored or coauthored over fifty publications in the field of environmental engineering including the recent textbook "Biosolids Engineering" (McGraw-Hill, 2001)as well as numerous research journal articles, conference proceedings and professional engineering (PE) licensing

workbooks. Dr. McFarland is a registered professional engineer in the State of Utah and currently holds Grade IV operator certifications for both wastewater and water treatment. Dr. McFarland is a Diplomate of the American Academy of Environmental Engineers (AAEE)as well as a member of several professional environmental science and engineering organizations including the Water Environment Federation (WEF), Society for Risk Analysis, National Biosolids Partnership and the Association of Environmental Engineering and Science Professors (AEESP). (9/2002)

Dr. Bruce E. Rittmann is John Evans Professor and Area Coordinator of Environmental Engineering at Northwestern University. He received his BS in Civil Engineering and his M.S. in Environmental Engineering from Washington University and received his Ph.D. in Environmental Engineering from Stanford University.

His research combines concepts and techniques from engineering with those from microbiology, biochemistry, and microbial ecology. This combination is used to address fundamental and applied issues in the biological treatment of waters and wastewater and in the bioremediation of contaminated aquifers and soils. Rittmann is most recognized for his research on biofilm kinetics, the biodegradation of organic micropollutants, and the application of molecular and modeling tools to understand and control complex microbial systems used in environmental biotechnology. His work ranges from fundamental studies, such as on the genetics of nitrifying bacteria and the responses of intracellular cofactors, to applied studies, such as evaluating the performance of biofiltration systems used in drinking-water treatment. Most characteristic of all the research is the explicit connection of fundamental principles to practical applications.

Dr. Rittmann served as the President of the Association of Environmental Engineering Professors and was the Vice-Chair of the Water Science and Technology Board of the National Research Council (NRC). Dr. Rittmann chaired the NRC's committee on in situ bioremediation, which published In Situ Bioremediation: When Does It Work? and currently chairs the NRC's Committee on Intrinsic Remediation. Dr. Rittmann was awarded the first A.R.I. Clarke Prize for Outstanding Achievements in Water Science and Technology from the National Water Research Institute, and he previously won the Walter Huber Research Prize from the ASCE, the University Scholar Award from the University of Illinois, and the Presidential Young Investigator award from the National Science Foundation. Dr. Rittmann shares six best-thesis awards from the Association of Environmental Engineering Professors and is a Fellow in the American Association for the Advancement of Sciences. (9/2002)

Dr. Thomas Theis is Professor of Civil and Materials Engineering and Director of the Institute for Environmental Science and Policy at UIC, a center that focuses on the development of new cross-disciplinary research initiatives in the environmental area. He was most recently at Clarkson University, where he was the Bayard D. Clarkson Professor and Director of the Center for Environmental Management. Professor Theis received his doctoral degree in environmental engineering, with a specialization in environmental chemistry, from the University of Notre Dame. His areas of expertise include the mathematical modeling and systems analysis of environmental processes, the environmental chemistry of trace organic and inorganic substances, interfacial reactions, subsurface contaminant transport, hazardous waste management, industrial pollution prevention, and industrial ecology. He has been principal or co-principal investigator on over forty funded research projects totaling in excess of eight million dollars, and has authored or co-authored over one hundred papers in peer reviewed research journals, books, and reports. He is a member of the USEPA Science Advisory Board (Environmental Engineering Committee), is past editor of the Journal of Environmental Engineering, and serves on the editorial boards of The Journal of Contaminant Transport, and Issues in Environmental Science and Technology. From 1980-1985 he was the co-director of the Industrial Waste Elimination Research Center

(a collaboration of Illinois Institute of Technology and University of Notre Dame), one of the first Centers of Excellence established by the USEPA. In 1989 he was an invited participant on the United Nations' Scientific Committee on Problems in the Environment (SCOPE) Workshop on Groundwater Contamination, and in 1998 he was invited to by the World Bank to assist in the development of the first environmental engineering program in Argentina. Among his current projects is the Environmental Manufacturing Management Program, one of the Integrative Graduate Education Research and Training (IGERT) grants of the National Science Foundation, which involves research on industrial pollution prevention problems emphasizing a systems approach.(9/2002)

Dr. Valerie Thomas is a Research Scientist at the Princeton Environmental institute at Princeton University. Dr. Thomas received her Ph.D. in theoretical physics from Cornell University and was a post-doctoral Research Fellow at the Department of Engineering and Public Policy at Carnegie Mellon University. Her research is in the areas of Industrial Ecology and Environmental Policy. Recent research topics include mercury exposure, dioxin sources, the economic demand impacts of second-hand markets, electronics for product recycling, environmental policy in the former Soviet Union, and ethanol as a gasoline lead replacement in Africa. She is co-author of the book "Industrial Ecology and Global Change," (Cambridge University Press, 1994). She is a Member of the Environmental Engineering Committee of the EPA Science Advisory Board. She was Chair of the Metals Assessment Review (2002), and she participated in the SAB reviews of the Dioxin Reassessment, the Mercury Report to Congress, and the Integrated Risk Project. She is a Fellow of the American Physical Society. She will be vice-chair of the Gordon Conference on Industrial Ecology in 2004 and chair in 2006. (9/2002)